

REMARKS

Claims 1 – 10, 21, 22, and 34 – 39 are pending in the present application. Claims 40 – 44 are newly presented. New independent claim 40 recites an apparatus for receiving and transmitting digital data between mobile phones, personal digital assistants or smart phones, and recites, *inter alia*, specific elements used for such receiving and transmitting. New dependent claims 41 – 44 depend from each outstanding independent claim, and set forth elements and steps for determining that one of a mobile phone, a personal digital assistant or a smart phone is connected to the jack. It is respectfully submitted that the above amendments add no new matter to the Application within the meaning of 35 U.S.C. §132.

In the outstanding Office Action, claims 1 – 3, 6 – 10, 21, and 22 were rejected under 35 USC 103(a) as being allegedly unpatentable over *Daly* (US 6,190,190, hereinafter *Daly*) in view of *Sonoda* (US 6,181,782, hereinafter *Sonoda*). Claims 4 and 5 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Daly* and *Sonoda* taken in view of *Shin* (US 6,006,109, hereinafter *Shin*). Claims 34 – 39 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Daly* and *Sonoda* taken in view of *Bannasch et al.* (US 2001/0055352, hereinafter *Bannasch*).

Rejections under 35 USC §103

Claims 1 – 3, 6 – 10, 21, and 22 were rejected under 35 USC 103(a) as being allegedly unpatentable over *Daly* in view of *Sonoda*, Claims 4 and 5 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Daly* and *Sonoda* taken in view of *Shin*, and Claims 34 – 39 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Daly* and *Sonoda* taken in view of *Bannasch*.

Response

This rejection is respectfully traversed in its entirety.

To establish a *prima facie* case of obviousness, the Examiner must establish some suggestion or motivation to modify the references exists; a reasonable expectation of success; and that the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

Applicants claim an apparatus and method for receiving and transmitting digital data between a first device and a second device, "wherein the first device is one of a mobile phone, a personal digital assistant or a smart phone and wherein the second device is one of a mobile phone, a personal digital assistant or a smart phone." (Present Application, Claims 1, 16, 21)

Claims 1 – 3, 6 – 10, 21, and 22

Claims 1 – 3, 6 – 10, 21, and 22 were rejected under 35 USC 103(a) as being allegedly unpatentable over *Daly* in view of *Sonoda*.

In claim 1, an apparatus for use in a first device comprises, *inter alia*, a

"... a first conversion unit...configured to encode digital data into analog signals for transmission to the second device; and a second conversion unit... configured to recover the digital data from the analog signals received from the second device."

(Emphasis added)

In claim 6, a method for receiving and transmitting digital data non-wirelessly from a first device to a second device includes, *inter alia*,

"... receiving analog signals encoded with ... digital data from the second device [and] transmitting ... analog signals encoded with digital data to the second device."

(Emphasis added)

In claim 21, an apparatus for use in a first device comprises, *inter alia*,

"... means for receiving ... analog signals encoded with ... digital data from the second device [and] means for transmitting ... analog signals encoded with digital data to the second device."

(Emphasis added)

Upon review of the art cited by the Examiner, Applicants submit that the cited references do not disclose, teach, or suggest apparatus or methods for transmitting data between a first device and second device wherein each device is a mobile phone, personal digital assistant, or

smart phone. This is significant because, while complicated and carrier-dependent methods of wireless communication (e.g. infrared, broadcast) are known for these devices, there is (as stated in the present application) a need for a less complex, yet user friendly, inexpensive and/or efficient way to share and/or transfer information between these types of devices. See the U.S. Patent Application Publication for the present application, paragraphs 0004 – 0006.

Accordingly, claim 1 recites conversion units specifically configured to encode data for transmission from one such device to another such device, and to recover data received at one such device from another such device. Claims 6 and 21 similarly recite specific steps and means, respectively, for receiving and transmitting data between two such devices.

The Examiner cites *Daly* to teach an apparatus capable of connecting a first digital device to a second digital device. (*Daly*, Abstract) As noted by the Examiner in the outstanding Office Action, *Daly* "does not expressly disclose the type of digital devices," meaning that *Daly* nowhere discloses that the other digital device may be a *mobile phone, personal digital assistant or smart phone*. *Daly* in fact teaches away from such a device, when he defines the DDs (digital devices) to which the disclosed invention applies as "[c]omputers and other DDs that require a null modem pin-through when attached for serial communications with other computers," a definition which one skilled in the art would not reasonable apply to a mobile phone, personal digital assistant or smart phone. *Daly* is therefore completely silent as to mobile phones, personal digital assistants or smart phones, and teaches away from both their use and their functionality within his disclosure.

The Examiner cites *Sonoda* to cure the deficiencies of *Daly*. *Sonoda* is drawn to a "Personal Digital Assistance Device...for communicating with another device via a telephone line." *Sonoda* nowhere discloses that this Device might require a null modem pin-through for serial communication with other computers, as set forth in the disclosure of *Daly*. Even if *arguendo* one skilled in the art would think to apply the disclosure of *Daly* to the Personal Digital Assistance Device of *Sonoda*, *Sonoda* nowhere discloses that the *other* device, with which the Device communicates, may be a *mobile phone, personal digital assistant or smart phone*, or that the Device is in any sense configured to communicate with such a device. In fact, *Sonoda* teaches away from this interpretation, as the modem 17 disclosed by *Sonoda* is specifically configured to communicate over telephone lines by "dialing a telephone number of the other device." (see

Sonoda, Claim 1) in order to reach a "PC communication environment including the internet." (see *Sonoda*, col. 1, lines 45 – 52). *Sonoda* nowhere suggests that the Device can communicate directly with *another* personal digital assistant, or smart phone, or mobile phone.

Simply put, neither *Daly* nor *Sonoda* show *two mobile phones, personal digital assistants or smart phones* configured to communicate *with each other* through a single, non-wireless jack. Even if *arguendo* one skilled in the art would be motivated to combine these references, nothing in *Daly* or *Sonoda* suggests that the combination of references would produce a personal digital assistant, smart phone, or mobile phone capable of communicating directly with *another* personal digital assistant, smart phone, or mobile phone, as presently claimed.

Applicants respectfully submit that neither *Daly* nor *Sonoda*, separately or combined, teach or suggest the claimed subject matter.

As the combination of *Daly* and *Sonoda* fails to disclose, teach, or suggest all of the features of independent claims 1, 6, and 21, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case of obviousness with respect thereto, or to claims 2 and 3, 7 – 10, and 22 dependent respectively therefrom.

Reconsideration and withdrawal of all rejections to these claims are respectfully requested.

Claims 4 and 5

Claims 4 and 5 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Daly* and *Sonoda* taken in view of *Shin*.

Claim 4 recites an apparatus for transmitting data between a first device and second device wherein *each device* is a mobile phone, personal digital assistant, or smart phone, and wherein data is transmitted by way of a single jack "configured to couple to either one of a headphone or headset." Claim 5 further specifies that the jack "is configured to receive perceptible sound."

In the outstanding Office Action, the Examiner admits that "the combination of *Daly* and *Sonoda*...does not expressly disclose a jack is configured to couple to one of a headphone or headset." The Examiner cites *Shin* to cure the deficiencies of *Daly* and *Sonoda*. *Shin* is drawn to

a wireless data communication system which uses a headphone jack of a portable phone. (*Shin*, title).

Shin fails to cure the deficiencies of *Daly* and *Sonoda*, as *Shin* too fails to disclose, teach, or suggest apparatus or methods for transmitting data between a first device and second device wherein *both devices are* mobile phones, personal digital assistants, or smart phones. *Shin*, like *Daly* and *Sonoda*, simply fails to show *two mobile phones, personal digital assistants or smart phones* configured to communicate *with each other* through a single, non-wireless headphone or headset jack. This is significant because the present subject matter permits this innovative connection without necessitating an external physical port separate from the headphone jacks.

As the combination of *Shin*, *Daly* and *Sonoda* fails to disclose, teach, or suggest all of the features of independent claim 1, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case of obviousness with respect thereto, and thus to claims 4 and 5 dependent therefrom.

Moreover, Applicants strongly question the motivation to combine *Daly* and *Sonoda* with *Shin*. A *prima facie* case of obviousness must also include a showing of the reasons why it would be obvious to modify the references to produce the present invention. See *Dystar Textilfarben GMBH v. C. H. Patrick*, 464 F.3d 1356 (Fed. Cir. 2006). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings. *Id.* at 1366. Applicants note that the Examiner does not provide even one motivation at page 5 of the outstanding Office Action. Moreover, Applicants traverse any suggestion that one skilled in the art would be motivated to replace the phone jack of the *Sonoda* Device with the reversible connector of *Daly*, and then subsequently wire the connector of *Daly* back to a headphone or headset jack (in the manner of *Shin*) already disposed at the *Sonoda* Device. Such a combination would only be clear under hindsight, which Applicants submit that the Examiner has inappropriately applied in making the present rejection.

For this additional reason, reconsideration and withdrawal of all rejections to claims 4 and 5 are respectfully requested.

Claims 34 – 39

Claims 34 – 39 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Daly* and *Sonoda* taken in view of *Bannasch*.

The combination of *Daly* and *Sonoda* fails to disclose, teach, or suggest multi-carrier modulation and demodulation. The Examiner cites *Bannasch* to cure the deficiencies of *Daly* and *Sonoda* with respect to claims 34 – 39; however, *Bannasch* fails to cure these deficiencies, as *Bannasch* too fails to disclose, teach, or suggest apparatus or methods for transmitting data between a first device and second device wherein *each device* is a mobile phone, personal digital assistant, or smart phone. *Bannasch*, like *Daly* and *Sonoda*, simply fails to suggest implementation with *two mobile phones, personal digital assistants or smart phones* configured to communicate with *each other* by way of multi-carrier modulation or demodulation through a single, non-wireless jack.

As the combination of *Bannasch*, *Daly* and *Sonoda* fails to disclose, teach, or suggest all of the features of independent claims 1, 6, and 21, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case of obviousness with respect thereto, and thus to claims 34 and 35, 36 and 37, and 38 and 39 dependent respectively therefrom.

Reconsideration and withdrawal of all rejections to these claims are respectfully requested.

New Claims

To expedite the application to allowance, Applicants have provided new claims which recite additional features not found in the cited art of record.

New independent claim 40 recites an apparatus for use in a first device to receive digital data non-wirelessly from a second device and to transmit digital data non-wirelessly to the second device. Again, the first device is one of a mobile phone, a personal digital assistant or a smart phone and wherein the second device is one of a mobile phone, a personal digital assistant or a smart phone. The apparatus comprises two conversion units for communicating with the second device. The first conversion comprises a number of elements used for transmitting such communication: "a forward error correction element, an interleaver, a digital modulator, an inverse fast Fourier transform element, an up-converter, and a digital to analog converter."

Similarly, the second conversion unit comprises a number of corresponding elements used for receiving such communication: "an analog to digital converter, a down-converter, a synchronization unit, a fast Fourier transform element, a digital demodulator, a de-interleaver, and a decoder."

Applicants submit that the above features, configured for use in communication between a mobile phone, personal digital assistant or smart phone and another mobile phone, personal digital assistant or smart phone, are neither shown nor suggested by found in the cited art.

Entry and allowance of this claim are requested.

New dependent claims 41 – 44 all specify how the apparatus determines that one of a mobile phone, a personal digital assistant or a smart phone is connected to the jack by way of transmission of a control signal and return of a response signal (see the present application publication, para. 0040). Applicants submit that this feature, which allows the claimed apparatus and methods to share a headphone or headset jack already present at a mobile phone, personal digital assistant or smart phone, is not found in the cited art.

Entry and allowance of these claims are further requested.

OTHER REFERENCES OF RECORD

Applicants has reviewed the references made of record and asserts that the claimed subject matter is patentable over the references made of record. Lee (US 5,873,045, hereinafter *Lee*), cited by the Examiner in the Office Action of November 29, 2005, discloses communication "between a computer system and a radio frequency transceiver" (*Lee*, abstract), and not between two of the devices discussed above, by way of a single jack. *Lee* further does not disclose each feature of the newly presented claims. Liu (US 2003/0144040, hereinafter *Liu*) cited by the Examiner in the Office Action of May 20, 2005, discloses an advanced data connectivity accessory that "connects [a] mobile apparatus to a computer" (*Liu*, para. 0004), and not between two of the devices discussed above, by way of a single jack. *Liu* further does not disclose each feature of the newly presented claims.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner call the undersigned.

Applicants hereby request a one-month extension of time to respond the captioned matter. Please charge the requisite fee of \$110.00 to Deposit Account No. 17-0026. Please charge any other fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: March 26, 2007

By: 
David J. Huffaker, Reg. No. 56,771
858-845-2110

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Telephone: 858-658-5787
Facsimile: 858-658-2502